



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,046	06/15/2007	Taku Hirayama	SHIGA7.055APC	5635

20995 7590 07/20/2010
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

JOHNSON, CONNIE P

ART UNIT	PAPER NUMBER
----------	--------------

1795

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

07/20/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
efiling@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No. 10/590,046	Applicant(s) HIRAYAMA ET AL.	
	Examiner CONNIE P. JOHNSON	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/9/10 and 5/12/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The remarks and amendment filed 6/17/2010 are entered and fully considered.
2. Claims 1-20 are presented.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-5, 8-13 and 16-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6 and 9 of copending Application No. 11/574,805. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application discloses a resist composition comprising a base material with acid-dissociable, dissolution-inhibiting groups, an acid generator and a nitrogen-containing compound.

Art Unit: 1795

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-5, 8-13 and 16-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 11/813,511. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application discloses a resist composition comprising a polyhydric phenol compound with acid-dissociable, dissolution-inhibiting groups with a molecular weight of 300 to 2500, an acid generator and a nitrogen-containing compound. Although not exemplified in the claims, it would have been obvious to one of ordinary skill in the art that the polyhydric phenol compound is present in the amount as claimed based the components in table 1, page 13.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1-5, 8-13 and 16-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 11/914,451. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application discloses a resist composition comprising a polyhydric phenol compound with acid-dissociable, dissolution-inhibiting groups with a molecular weight of 300 to 2500, an acid generator and a nitrogen-containing compound. Although not exemplified in the claims, it would have been obvious to one of ordinary skill in the art that the

Art Unit: 1795

polyhydric phenol compound is present in the amount as claimed based the components in table 4, page 20.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-5, 8-13 and 16-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 11/994,602. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application discloses a resist composition comprising a base material with acid-dissociable, dissolution-inhibiting groups with a molecular weight of 300 to 2500, an acid generator and a nitrogen-containing compound. Although not exemplified in the claims, it would have been obvious to one of ordinary skill in the art that the polyhydric phenol compound is present in an amount as claimed based on the components in table 3 (page 19).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Hirayama et al., IEEE Xplore, (October 22, 2004).

Hirayama teaches a positive resist composition comprising a polyphenol that is representative of the structure in present claim 2, formula (I), wherein $p=1$ (page 11, Figure 1, structure 3M6C-MBSA and 25X-MBSA). The 3M6C-MBSA and 25X-MBSA have a phenolic hydroxyl group $R=\text{ethoxyethyl}$ in a protection ratio of 19.9-30mol% (claim 17) (table 1). Therefore, 3M6C-MBSA and 25X-MBSA would have two-OH groups protected with ethoxyethyl groups and one-unprotected hydroxyphenol wherein $R=\text{hydrogen}$, based on the ratio of protection groups. So, the amount of protected groups would be greater than 80% by weight and less than 20% by weight of unprotected groups. The polyphenols have a molecular weight of 981.4 and 708.9, respectively. Therefore the compounds have an inherent molecular dispersity of no more than 1.5. The low molecular weight polyphenol is present in the resist composition in an amount of 100% by weight (claim 1). There are no other acid-dissociable group containing compounds in the resist composition. The recitation, "an ability to form an amorphous film using a spin coating method" is intended use and does not add positive recitation to the claim. Applicant is reminded of MPEP 2106. The resist composition also comprises triphenylsulfonium perfluoro-1-butanesulfonate as a photoacid generator and tri-octylamine as the nitrogen-containing compound (Table 1). The resist pattern is formed by applying the resist to a silicon wafer, prebaking (PAB), exposing, post exposure baking (PEB) and developing to form a pattern (see explanation in figure

2). Hirayama also teaches developing the positive resist with 0.26N tetramethylammonium hydroxide (page 10, paragraph 2).

Response to Arguments

10. Applicant's arguments filed 6/17/2010 have been fully considered but they are not persuasive. However, upon further consideration, a new ground(s) of rejection is made herein.

11. Applicant argues that since the Obviousness Double Patenting rejection is the only remaining rejection, that the rejection should be withdrawn.

However, since no terminal disclaimer has been filed, the Obviousness type Double Patenting rejections are maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CONNIE P. JOHNSON whose telephone number is (571)272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Connie P. Johnson
Examiner
Art Unit 1795

/Cynthia H Kelly/
Supervisory Patent Examiner, Art Unit 1795